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A QUICK REFERENCE GUIDE FOR COMPARING RAIL FREIGHT COSTS OF SOFTWOOD LUMBER ITEMS

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ABSTRACT

Summarizes freight costs for a typical softwood lumber item (2 by 4 dimension) between 12 principal lumber production areas and 8 major markets. The purpose is to demonstrate a method for making a general comparison of freight costs of such lumber items without going through the tedious task of computing freight costs. The method can be used by those who may need to develop more detailed freight costs on specific items.

Transportation costs comprise a substantial portion of the delivered price for lumber products and can account for as much as 45 percent of the total price for some grades. As a result, freight charges can play an important role in the marketing program of individual producers, in that they can influence the type of products that can be produced and where such products can be sold profitably.

This study converts freight per hundredweight to costs per thousand board feet (MBF) and compares such costs between 8 major market areas and 12 western, southwestern, and southern production areas (fig. 1). The steps used in estimating freight costs per MBF of lumber are as follows:

1. *Determine freight rates for each combination of production area market points being considered.* Rates are established by railroads, approved by the Interstate Commerce Commission, and published in various tariff books by freight bureaus.

The rates for the production area/market points used in our study are shown in table 1. Note that all western shipping points have the same rate to Detroit. This rate applies to all points in the northeastern United States called the "Blanket Territory"--for western lumber shippers.

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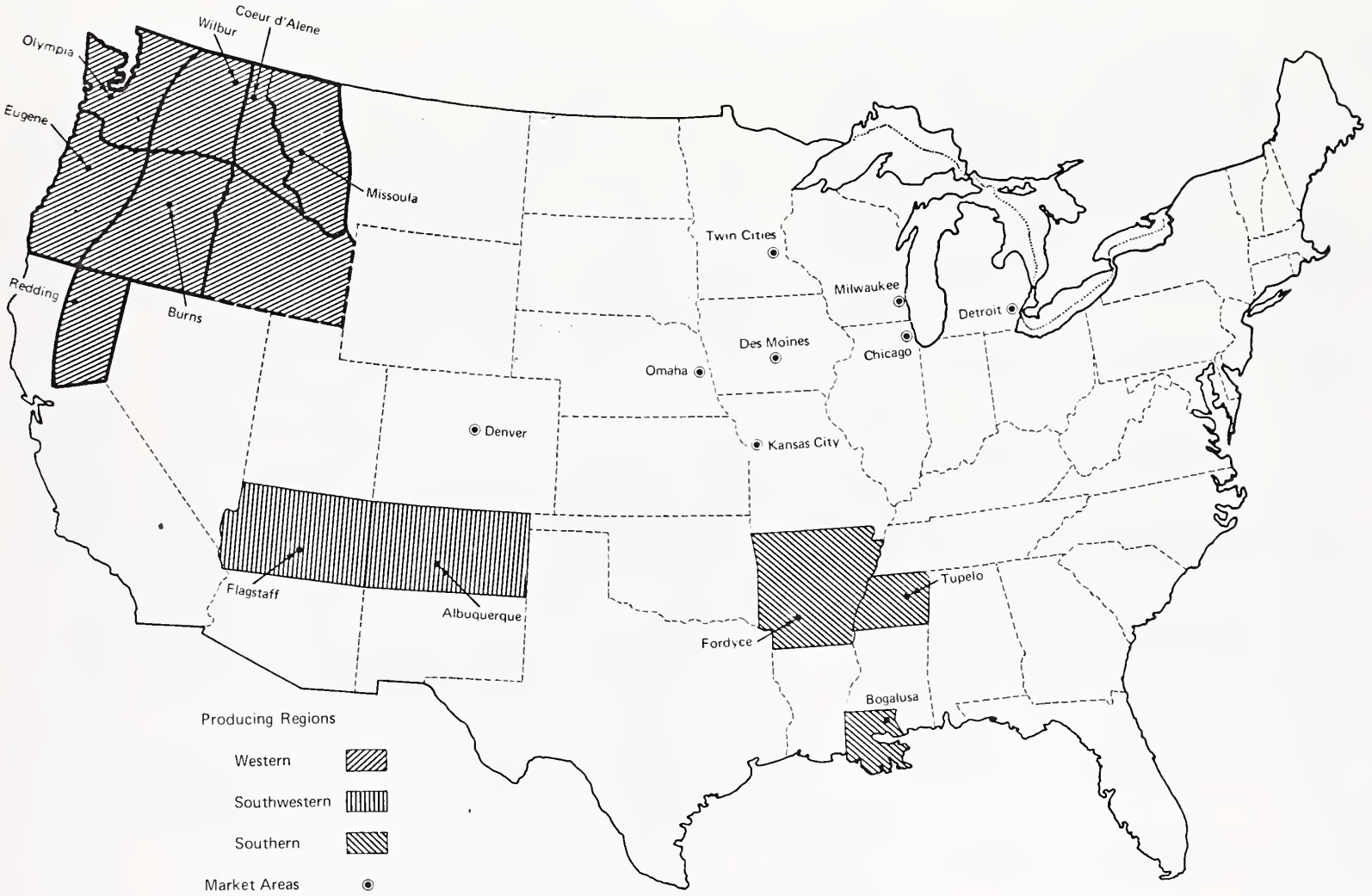

Figure 1.--Principal lumber production areas and shipping destination cities for major markets used in this study.

Table 1.--*Railroad tariff rates between shipping points in 12 production areas and 8 major market areas, January 1, 1971* [1] [2]

Shipping points	Destination							
	Chicago, Illinois	Denver, Colorado	Des Moines, Iowa	Detroit, Michigan	Kansas City, Missouri	Milwaukee, Wisconsin	Minneapolis-St. Paul, Minnesota	Omaha, Nebraska
	Cents per hundredweight							
WESTERN AREAS								
Olympia, Washington	172	133	166	180	152	172	152	152
Wilbur, Washington	169	120	161	180	149	169	149	149
Eugene, Oregon	172	133	166	180	152	172	152	152
Burns, Oregon	168	119	160	180	146	168	146	146
Coeur d'Alene, Idaho	168	119	160	180	146	168	146	146
Missoula, Montana	164	113	156	180	143	164	143	143
Redding, California	169	133	161	180	149	169	149	149
SOUTHERN AND SOUTHWESTERN AREAS								
Albuquerque, N. Mexico	113	91	112	142	92	141	116	101
Flagstaff, Arizona	124	114	120	154	110	154	126	117
Fordyce, Arkansas [3]	69	94	75	82	63	75	89	74
Bogalusa, Louisiana [3]	80	117	89	93	77	86	105	92
Tupelo, Mississippi [3]	63	101	70	74	64	68	85	75

[1] Rates can vary by 1 or 2 cents from these because of routing differencess.
[2] Rates shown are incentive rates; this means that railcars are loaded to full capacity or some minimum weight.
[3] Rates are based upon 60,000 pounds net weight per car.

Table 2.--*Estimated rail shipping weights per MBF for selected lumber items* [1]

Items	Thickness	Nominal width (Inches)		
		4, 6	8	10, 12
	Inches			
DIMENSION:				
Douglas-fir, hemlock, and Douglas-fir/larch (kiln dry)	1-5/8	2,200	2,250	2,300
	1-1/2	2,000	2,050	2,100
Douglas-fir (green)	1-5/8	2,800	2,850	2,900
White fir, spruce, and ponderosa pine (kiln dry)	1-5/8	2,000	2,000	2,000
	1-1/2	1,600	1,600	1,600
Southern pine (kiln dry)	1-1/2	2,300	2,300	2,300
BOARD (common, select & shop):				
		All widths		
Ponderosa pine, Idaho white pine	4/4 (1 inch)	1,900		
Sugar pine, spruce (kiln dry)	5/4 and 6/4	2,200		
Western redcedar	4/4	1,600		
	5/4 and 6/4	2,000		

[1] Except for 1½-inch dimension these are based on Western Wood Products Association and Southern Pine Association weights.

2. *Determine the weight per MBF of the lumber item being considered.* Wood producer associations publish the estimated shipping weights per MBF for lumber according to sizes, species, and finish pattern. The estimated weights for selected lumber items are shown in table 2. Note that weights per MBF vary considerably by thickness and width.

3. *Convert freight rates per hundredweight to estimated costs per MBF.* To do this, multiply the appropriate rates and weights for the production area/market points and lumber item being considered. Freight costs for nominal 2 by 4 inch dimension, $1\frac{1}{2}$-inch bases are summarized in table 3. Two typical species for each production area are shown, except for production areas in the South.

A graphic comparison of some typical freight costs extracted in table 3 is shown in figure 2. This shows, for example, that west coast Douglas-fir from Olympia or Eugene has only a slightly higher freight cost than Douglas-fir/larch from Missoula ($3 to $4 difference to all points except Denver and Detroit). But spruce from Missoula has a substantially lower freight cost because of its lighter weight. Similarly, Tupelo enjoys the lowest rates per hundredweight to Midwest markets (refer to table 1), but Albuquerque has competitive freight costs per MBF to several points because of weight differences between southern pine and ponderosa pine or Engelmann spruce.

This method provides a quick reference for making general comparisons of freight costs for typical lumber items and principal production area/market points. The method shown can also be used to derive other freight costs from table 1 (freight rates) and table 2 (shipping weights).

The reader should bear in mind the following:

1. Freight rates change periodically (there have been seven increases in the past 4 years) and these changes may alter relationships to some extent. Our data is based on January 1, 1971, rates.

2. Rates shown are incentive rates, which means the railcars are loaded to full visible capacity or some minimum weight. Railcars not so loaded have somewhat higher rates.

3. This report deals only with rail freight costs because most western lumber is moved by rail. Truck rates are generally higher except for hauls under 200 miles. However, comparison with truck rates may be desirable in some cases--some customers might not have rail sidings at the mill or yard; customers might demand truck shipments because of lower unloading costs; customers might order smaller shipments than a railcar would carry economically; or delivery time might be shorter for truck shipments.

4. Weights per MBF and resulting freight costs used in this method are based on what various wood producing associations estimate as typical or average weights. Overweights or underweights (variations from estimated weights) might occur because of variations in moisture content, wood density, or other factors. These overweights or underweights should be taken into account in any precise analysis of freight costs.

5. Milling in transit rates might vary from those shown here. Railroads offer "in transit" rates; these permit a shipper to ship material from point A to point B for processing, and then send it on to point C (the market). When this is done, the freight costs incurred are lower than they would be for two shipments--from points A to B, and from points B to C.

6. The comparison presented here is based on only a small number of possible production area/market point combinations; for other combinations, freight rates that apply to specific situations must be determined. For example, figure 3 shows only some of the several hundred freight rates that apply for shipments from western Montana to markets throughout the United States.

Table 3.--*Freight costs for 2 by 4 dimension lumber (1 -inch basis) selected species*

Shipping points	Species	Chicago, Illinois	Denver, Colorado	Des Moines, Iowa	Detroit Michigan	Kansas City Missouri	Milwaukee, Wisconsin	Minneapolis-St. Paul, Minnesota	Omaha, Nebraska
		-Dollars per MBF-							
Olympia	Douglas-fir	34.40	26.60	33.20	36.00	30.40	34.40	30.40	30.40
	Hemlock	34.40	26.60	33.20	36.00	30.40	34.40	30.40	30.40
Wilbur	Douglas-fir/ larch	33.80	24.00	32.20	26.00	29.80	33.80	29.80	29.80
	Ponderosa pine	27.04	19.20	25.76	28.80	23.84	27.04	23.84	23.84
Eugene	Douglas-fir	34.40	26.60	33.20	36.00	30.40	34.40	30.40	30.40
	White fir	27.52	21.28	26.56	28.80	24.32	27.52	24.32	24.32
Burns	Douglas-fir	33.60	23.80	32.00	36.00	29.20	33.60	29.20	29.20
	Ponderosa pine	26.88	19.04	25.60	28.80	23.36	26.88	23.36	23.36
Coeur d'Alene	Douglas-fir/ larch	33.60	23.80	32.00	36.00	29.30	33.60	29.20	29.20
	White fir	26.88	19.04	25.60	28.80	23.36	26.88	23.36	23.36
Missoula	Douglas-fir/ larch	32.86	22.60	31.20	36.00	28.60	32.80	28.60	28.60
	Engelmann spruce	26.24	18.08	24.96	28.80	22.88	26.24	22.88	22.88
Redding	Douglas-fir	33.80	26.60	32.20	36.00	29.80	33.80	29.80	29.80
	Ponderosa pine	27.04	21.28	25.76	28.80	23.84	27.04	23.84	23.84
Albuquerque	Ponderosa pine	18.08	14.56	17.92	22.72	14.72	22.56	18.56	16.16
	Engelmann spruce	18.08	14.56	17.92	22.72	14.72	22.56	18.56	16.16
Flagstaff	Douglas-fir	24.80	22.80	24.00	30.80	22.00	30.80	25.20	23.40
	Ponderosa pine	19.84	18.24	19.20	24.64	17.60	24.64	20.16	18.72
Fordyce	Southern yellow pine	15.87	21.62	17.25	18.86	14.49	17.25	20.47	17.02
Bogalusa	Southern yellow pine	18.40	26.91	20.47	21.39	17.71	19.78	24.15	21.16
Tupelo	Southern yellow pine	14.49	23.23	16.10	17.02	11.72	15.64	19.55	17.25

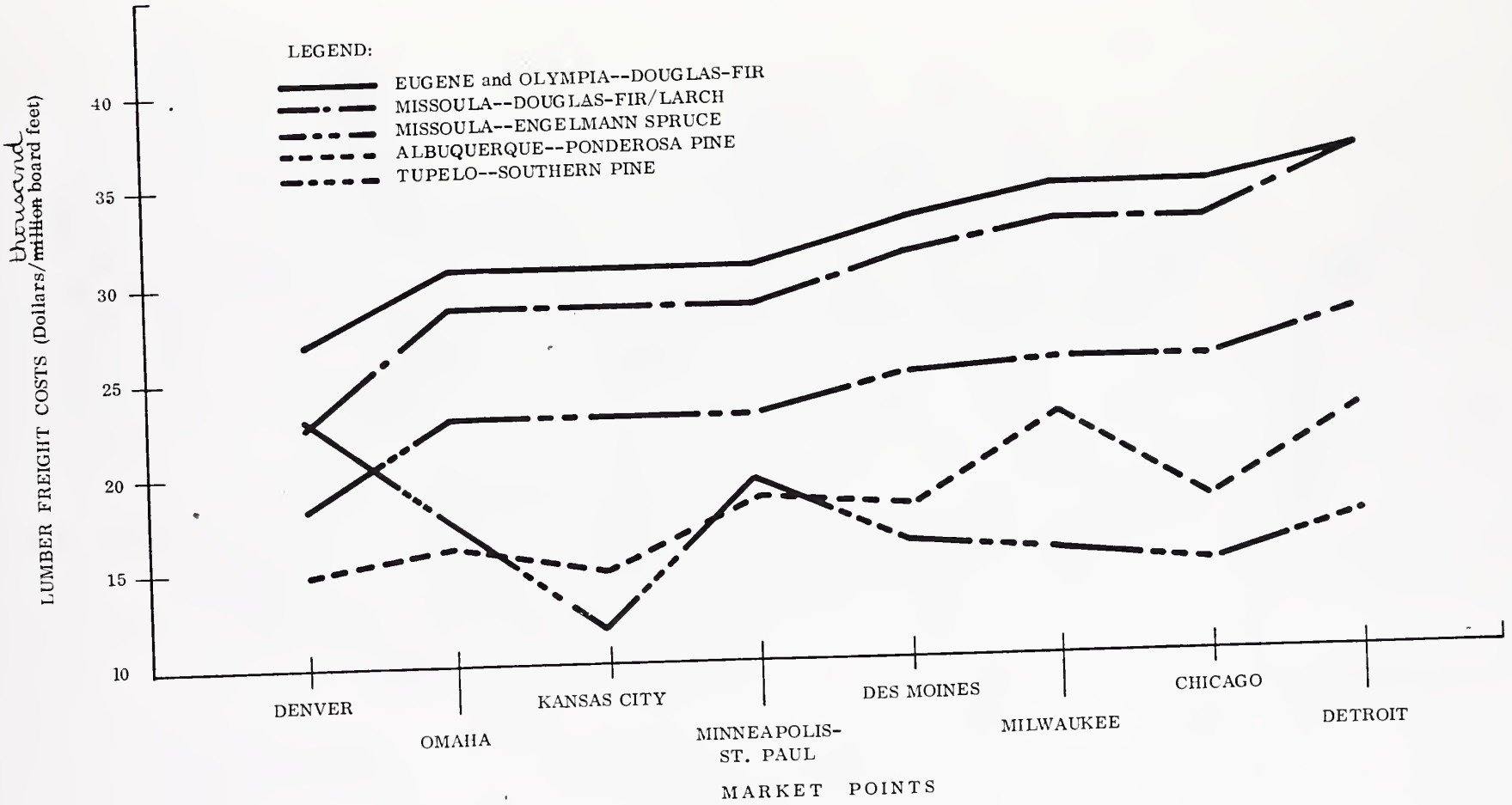

Figure 2.--Comparison of freight costs per MBF for 2 by 4 lumber for various selected species and production points.

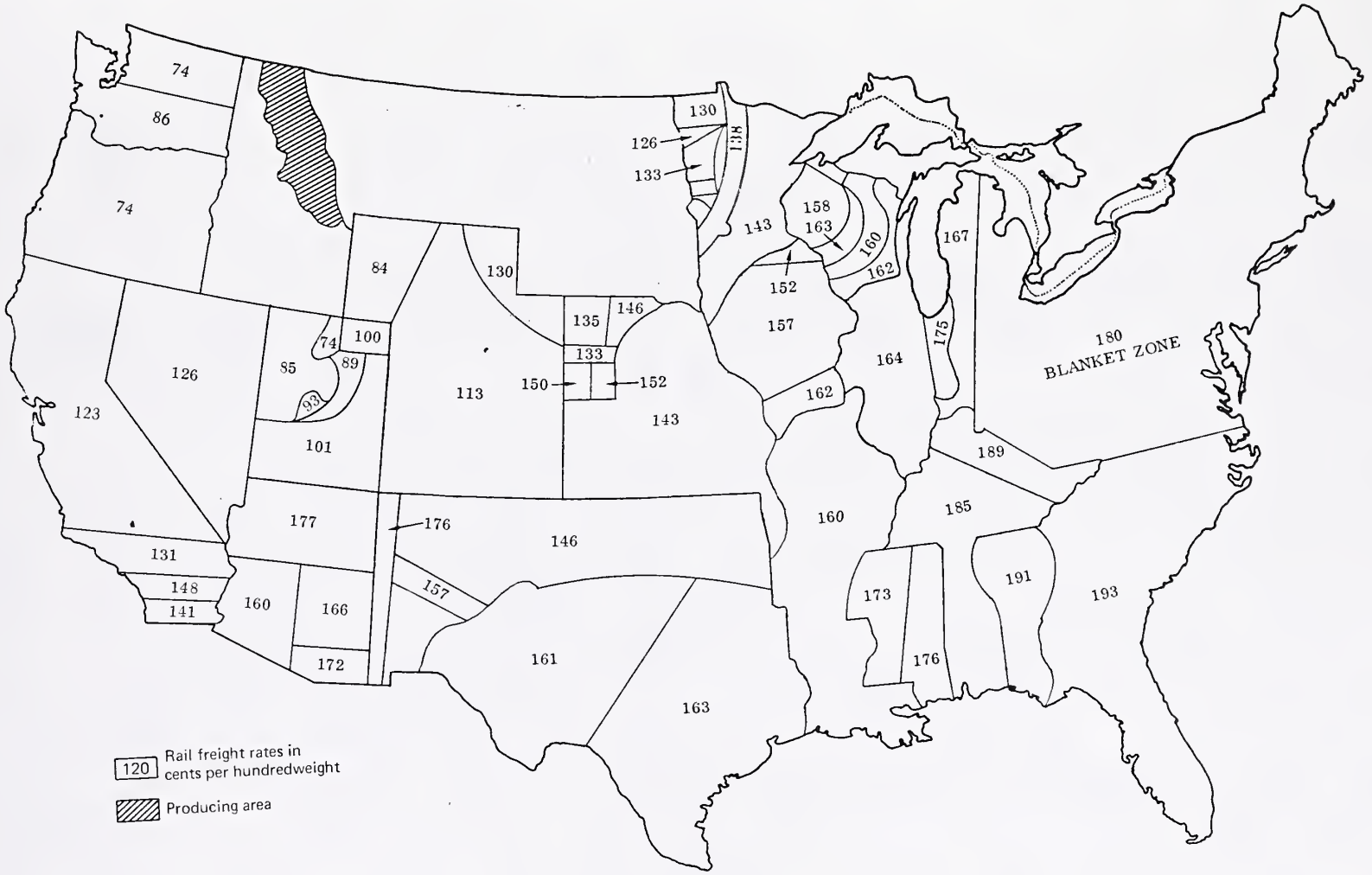

Figure 3.--Freight rates from lumber production areas in western Montana to markets throughout the United States.